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WEEKLY



Mr. O. O. POPPLETON, of Florida.

AMERICAN ESTABLISHED IN 1861 BEE JOURNAL THE OLDEST BEE-PAPER IN AMERICA

41st YEAR.

CHICAGO, ILL., JANUARY 24, 1901.

No. 4.

Editorial.

Bee-Keeping at the Pan-American.—The busy bee will be in big business at the Pan-American Exposition the coming summer. It has been decided to construct special building for the proper display of the working colonies of bees and the great variety of bee-keepers' supplies which will constitute this exhibit. It is expected that this will be the most extensive bee-exhibit ever prepared in this or any other part of the world.

The exhibits will be so arranged that the bees may enter their hives from the exterior of the building, and carry on their work undisturbed by visitors, yet in full view thru the glass sides of the hives. As the successful management of an apiary requires a knowledge of botany as well as the habits and requirements of the bees themselves, this exhibit will illustrate the operation of an apiary, and will show the common honey-producing flora in a way to be understood by all who may be interested. The relation of bees to horticulture and agriculture will be clearly shown, and the many uses of honey illustrated.

Since the invention of the movable-frame hive by Langstroth in 1851, the application of labor-saving, honey-saving, and bee-saving devices has been very interesting and important, as is well known by up-to-date bee-keepers everywhere. It is intended to make the most complete display ever seen of things aparian at the Pan-American Exposition.

Amateur Bee-Keepers is the heading of an article by Rambler, in Gleanings in Bee-Culture. He contends that to the amateurs the bee-keeping world owes quite a debt. He begins with Samson, who found a colony of bees in the carcass of a lion, "some writers going so far as to claim that Samson invented the movable-frame hive, from the supposition that the bees built the combs to the ribs of the defunct lion; and it was the comb attached to one of these ribs with which he sweetened himself."

Rambler then mentions Virgil, of later time, followed by Huber, and notes in passing that contemporary with him were many German investigators who were amateur bee-keepers.

Then coming across the ocean he finds Langstroth, who was never an extensive bee-keeper, yet it was he who by the invention of the movable frame opened to view the mysteries of the hive, and made it possible for

bee-keeping to become a remunerative business.

After that, again jumping back over the ocean, it was Hruschka who discovered the idea of the honey-extractor.

Returning to this country, among the many amateur bee-keepers who have been of great service to the bee-keeping world, he names A. I. Root, Prof. A. J. Cook, Samuel Wagner (founder of the American Bee Journal), Thomas G. Newman, F. Danzenbaker, and Arthur C. Miller, the inventor of the hot-plate foundation-fastener.

Skipping across the ocean once more, Rambler mentions J. Mehring, a German, who invented comb foundation. Also Prof. Cheshire, and Thos. Wm. Cowan, editor of the British Bee Journal, and inventor of the Cowan honey-extractor.

As Rambler intimates, the foregoing are only a few of those who while only amateurs in the pursuit of bee-keeping, yet did much to bring it up to its present high place among the useful businesses of the world. Surely, no amateur bee-keeper need be ashamed of his place or efforts, either in the past or present. May his tribe increase, and continue to bless the craft with bright and helpful ideas.

Pure Stock vs. Crosses.—A Stray Straw in Gleanings in Bee-Culture is as follows:

A fixt strain of bees is very desirable for the sake of continuing good qualities without change. But the "fixt strain" idea may be work too hard when it comes to the matter of improvement. With a strain so fixt that there is no possibility of variation, there is no possibility of improvement. Continuation of good traits comes from fixtness. Improvement of traits comes not from fixtness, but from variation. The trouble with a cross is that its characteristics are not fixt, but that does not argue against the possibility of greater improvement in the cross, and then it is the province of careful breeding to make that improvement fixt. I am an advocate of pure stock; but if I had the purest and best Italians on earth, and a cross that would beat them in storing by 50 percent, I'd drop the purity and try to fix that 50 percent.—[Yes, but I believe you will find that crosses would have a very strong tendency to sport back to the original stock, either one of which would be poorer than the mixture.—EDITOR.]

There is a somewhat sharp conflict between the Straw and Editor Root's comments; but not an irreconcilable one. Both views are correct. The progeny of pure or thoroughbred stock is likely to continue the qualities of the parents. The progeny of a cross is likely to hark back to the qualities of one or the other of the parents, selecting perhaps some of the least desirable traits. But there is a possibility, also, that there may be a sporting toward good as well as bad qualities. In the hands of the ignorant and careless, a cross is likely to run

much more rapidly to the bad than pure-bred stock. In the hands of the careful there may be more poor than good in the progeny of the cross, but by careful and severe selection there is a possibility of something that may be an improvement on the pure stock on either side from which the cross originated. It is a question for each one to decide for himself whether he will try the more hazardous plan of breeding for improvement from an unstable cross, or the safer plan of breeding from pure stock.

"**Bees Do Nothing Invariably**" is a saying attributed to Mrs. Tupper, and there is much truth in it. To establish any general rule about bees, there must be no little observation. Because you see bees do a certain thing on a certain day, you are not safe in saying that all bees invariably do the same thing every day. What is true at one time may not be true at another time. What is true one season may not be true the next. What is true in one place may not be true in another place. Laugh as much as you will at the frequent recurrence of the phrase, "in this locality," in many cases locality has a large influence.

As illustrating this matter, one man, having made careful observations, says he has found that when a bee brings in a load of pollen it brings no nectar, and vice versa. Another man, observing just as carefully, finds a full honey-sac in bees carrying pollen. In order to establish a general rule on the subject, there must be repeated observations, all the better if made by different observers in different places and at different times.

C. Davenport says on page 776 (1900), that he has found hundreds of bees carrying both pollen and honey, while an Ohio professor found bees carrying only one at a time. Which was the more exceptional case? The general opinion has probably been in accord with Mr. Davenport's view, but it is doubtful whether many have closely observed. If it is safe to venture an opinion, it is that careful observation will show that the popular opinion is in general the correct one, and the coming season may find many to substantiate Mr. Davenport's testimony.

Another illustration may be found by referring to pages 530 and 777 (1900). The observations of "Rip Van Winkle" do not entirely agree with those of Prof. Cook, as to the matter of scouts, and as to the reason for clustering. The questions are interesting, and may possibly be of practical importance. There is no lack of testimony that scouts are sent out by some colonies before the act of swarming. In apiaries where swarming is anticipated by dividing or other means when the condition of the colony shows that swarm-

ing is in prospect, it is not an uncommon thing to see a number of bees busily engaged day after day in cleaning out a hive containing empty combs, when as yet no swarm has issued. But when a swarm clusters, and remains clustered 12, 24, or more hours, it seems reasonable to believe either that no scouts had been sent out, or that their search had been unsuccessful. The fact that bees with a virgin queen are not so sure to cluster as one with a laying queen gives color to Prof. Cook's view that a swarm clusters to rest the queen. On the other hand, discredit is thrown upon that belief by the fact that in apiaries with clift queens it is a thing of frequent occurrence for swarms to settle without any queen. Why should they settle to rest the queen when no queen is with them? Or do they go on the general principle that a queen ought to be with them, and that she ought to be tired?

In all these disputed matters, careful and repeated observations made at different times and under different circumstances will help to general conclusions, and in the meantime it is well to bear in mind that "bees do nothing invariably."

We Wish to Thank all who have written us such kind letters referring to our recent misfortune, occasioned by the fire on the floors above us. Our "watered stock" is drying out again, and soon we will be going on as before. We feared that the old American Bee Journal might be delayed, or miss a number or two, but we were able to get it out so that our readers would scarcely know that anything unusual had happened here.

Weekly Budget

SOMETIMES.

"The hand that rocks the cradle
Is the hand that rules the—." Maybe;
But "the hand that rocks the cradle," sure
Is the hand that spans the baby.
W. W. MITCHELL, in *Progressive Bee-keeper*.

MR. T. F. BINGHAM, of Clare Co., Mich., wrote us Jan. 4th:

"The weather is fine, and the wintering prospect outdoors is better."

MR. N. D. WEST, of Schoharie Co., N. Y., wrote us Jan. 3d:

"It is zero weather this morning; no snow, good wheeling, and bees are quiet."

THE AUSTRALASIAN BEE-KEEPER is guilty of the following:

Jogging him: "Ello, Slumpy! Wot's de matter wid year face and han's? Got de hives?"

"No; I got de bees!"

EDITOR HUTCHINSON, of the Bee-Keepers' Review, says:

"A pun, if a good one, is often quite enjoyable. For instance, at the banquet held at Niagara Falls during the Ontario convention, there was an allusion to the green color of the water in the rapids just below the falls, and some curiosity expressed as to what this color was due, when some one suggested that it was green because it had just come over."

MR. WM. A. SELSER, of Philadelphia, we learn in a letter from him dated Jan. 15th, lost his beloved sister, by death, last month. We had the pleasure of making her acquaintance when stopping at Mr. Selser's home a year ago last fall, while attending the National Convention. Among other things in his letter, Mr. Selser says:

"She was so helpful to me in my business; from the very start she helped bottle honey. Ten years ago, when I first began the idea of bottling, there was no end of mishaps and drawbacks caused from lack of experience on my part, and loss of hundreds of dollars in little accidents from the lack of knowledge as to how to do it right; I would become discouraged, and feel like giving it up, when she would cheer my heart with encouraging words, and take right hold and try again, and try to show me where I was wrong. We would work side by side with my wife and man, week after week, to make it go. For the first few years she did all the labeling, then as my business increased, and I had to employ a larger force, she took charge of the molding of some four tons of beeswax in 1-ounce, 4-ounce, 8-ounce, and 1-pound cakes, packing them in boxes made for the different sizes, and getting them in shape to ship to my trade in Baltimore, New York, and Boston. She also put up a large lot of sections and frames for my made-up hive-sales in spring and summer. And in all the years she would never accept one cent for her services; and upon the anniversary of her birth, when I would desire to remember her in a substantial way, she would say, 'Now, brother, you are doing too much for me.' Her life was one of unselfishness, and the very idea of pay would take her real pleasure out of her service.

"The pecuniary loss is the smallest part to me, but her bright, sunny, Christian disposition, so encouraging at every turn, will be one that I will ever miss, and leaves a place that never can be filled. We laid her body away on Dec. 22d; her Christmas was with Christ, the author of it. We left the New York office to bring her home on account of appendicitis; she was sick only six days."

In addition to our own sympathy, Mr. Selser will have that of all the bee-keeping friends in the departure of his sister. But his loss must be great gain on the other side, where only character is valued. And then there is no little gain to those who are left behind, for the influence of her devoted life and example will ever remain to bless those who knew her, and be to their memories as pleasant as the sweet fragrance of beautiful flowers.

HONEYED BAKED APPLES.—Mr. A. E. Willcutt sends us the following which he clift from some paper:

"In baking apples, honey for sweetening is truly delicious. Wash the apples and core them, but do not peel; a bit of cinnamon may be put in the holes made by removal of the cores. Put the apples into a baking-pan, with just enough water to cover the bottom of the pan. When the apples are baked for 20 minutes, add the honey and baste them frequently until done. For very sour apples use a half gill of honey to every six apples. Eat hot or cold, with or without cream, they are good."

We publish this same information several years ago, and we were quite certain it originated with the bee-keeper who then sent it to us.

MR. W. L. COGGSHALL, of Tompkins Co., N. Y., writes us that it does not look very bright for his bee-keeping in Cuba, as signs of diseased brood are appearing. On page 829 (1900) it was mentioned that Mr. Coggshall had shipped a lot of bees to Cuba, expecting to carry on the business there.

MR. J. E. CRANE, of Vermont, has an article in the Bee-Keepers' Review telling how his bees helped to build his beautiful home, a picture of which forms the frontispiece. He says that when young he was quite an invalid, and the doctors advised living on a farm, but he was not able to do heavy work, nor had he the capital to employ some one to do it for him. No one in his locality had made a business of bee-keeping in those days—about 40 years ago—the some of his neighbors kept bees, and were able to sell some honey in good seasons. He read the books of Quinby and Langstroth—there were no periodicals devoted to bee-keeping in those days. He was led to believe that he could sell enough honey to employ the needed help to work on his farm, even if he did not produce enough to make a living at the bee-business. He began in a small way, as all beginners should do, and did not get a pound of surplus the first season, as it was a very poor one. The next year his colonies averaged 100 pounds. He then increased his apiary until he had six or seven hundred colonies all his own. He used frame hives from the very first, and had Italian bees. The price of honey averaged 30 cents per pound above the cost of selling, being fully double what it is to-day.

He thinks that more failures in bee-keeping come from increasing too rapidly than from any other cause. He has stuck to his bees thru all kinds of seasons, and believes that they will pay as well, ordinarily, as any other branch of rural industry. After 35 years of work with them he is more interested than ever. He thinks that it pays to persist in the business rather than to sell out when a poor year comes, or let them die, and go into something else. He realizes that many parts of our country are unfit for keeping bees profitably, the same as would apply to wheat-growing or fruit-raising, and that there is nothing to be gained by trying to believe that bees can be made a success everywhere. The way to discover a good location is to investigate the flora, and consult those who have kept bees some years in such localities.

THE ONTARIO BEE-KEEPERS' ASSOCIATION elected the following as its officiary for 1901, at its meeting held at Niagara Falls last month:

President, John Newton, of Thamesford; 1st Vice-President, J. D. Evans; 2d Vice-President, Jas. Armstrong; Secretary, Wm. Couse, of Streetsville; Treasurer, Martin Emigh; Foul-Brood Inspector, Wm. McEvoy, of Woodburn; Assistant Inspector, F. A. Gemmill, of Stratford.

Woodstock, Ont., was selected as the next place of meeting. We learn that the last meeting was the best ever held by the Association. We hope soon to find room for an epitome of at least a portion of the proceedings.

MR. G. M. DOOLITTLE has been down in Arkansas for several weeks, looking after a farm in which he is interested. He expects to be at his home in New York State again about Feb. 1st. Among other things he says this in a letter to us dated Jan. 12th:

"I do not see why bees ever need to die in wintering bees here [Sebastian Co., Ark.], if they have food enough, for more than one-half the days since I have been here have been warm enough for them to fly, and the sun has shone every day but two."

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 39.)

Pres. Root—We will next listen to the paper by George W. York, on

HOW TO SHIP HONEY TO MARKET, AND IN WHAT KIND OF PACKAGES.

While this subject is ever one of greatest interest to those bee-keepers who make the production of honey a real business, still it is also a topic on which it is almost impossible to say anything new—especially for me to do so.

Unquestionably, the "how" to ship honey to a distant market is by freight, every time, and for two very important reasons, viz.: First, the transportation charges are much less than by express; and, second, the comb honey so shipped is more likely to arrive at its destination in good condition.

SHIPPING COMB HONEY.

In the shipping of comb honey great care must be used in its preparation to withstand the necessary handling in transit. Judging from personal experience, and also from somewhat extensive observation in the Chicago market, the only safe way in which to put up comb honey to stand shipping successfully is first to put it into non-drip cases, having a follower-board at the back of the sections, with newspaper wadded up and crowded in back of the follower.

After that, the cases of honey should be placed firmly in a large crate whose upper side-pieces extend out and beyond each end of the crate about six inches, to be used as handles for carrying between two men. In the bottom of the crate should be put a bed of straw or hay, to act as a cushion under the honey-cases. Then, when putting the cases in they should be so placed that the glass side of each shows thru the crate. This will be an aid to the freight handlers, revealing the contents, and thus suggesting care in moving the crates.

It is not a bad thing to put hay or straw on top of the cases before nailing the top slats on the crate, so that should it accidentally be turned upside down, the honey would not be injured.

But in addition to all the above care in packing comb honey for shipping, it is also well to mark or tack on this precautionary notice, in large letters, COMB HONEY—HANDLE WITH CARE.

If comb honey is prepared for shipment as above directed, precious little of it will suffer any when shipped, no matter what the distance, nor how often it may be transferred from one railroad to another.

CAR-LOAD SHIPMENTS OF COMB HONEY.

For car-load shipments of comb honey no crates are necessary. Simply see to it that the cases are placed solidly in the car, in such a way that the combs are parallel with the railroad track. This is necessary in order to avoid breaking down of combs from the sudden starting or stopping of the cars. The bumping of freight-cars is simply an awful thing, hence every case of honey must be securely fastened. It will do no harm to put a light bed of straw or hay on the floor of the car before putting in the cases of honey. Even if not really necessary as a cushion, it would serve to keep the bottoms of the first row of cases clean.

If you wish to keep the tops of the top tier of cases neat and clean in the car, the whole can be covered with newspapers, or other paper, tacked down lightly. Or, what is better, a large canvas covering can be used, and after the honey is unloaded, this canvas can be returned by freight to the shipper, and thus used over and over again. It pays to keep comb-honey cases absolutely clean. We all know how dirty and dusty one becomes when traveling even in the comfortable upholstered passenger coaches; but how much worse it must be in a rough old freight-car!

SHIPPING EXTRACTED HONEY.

It will not be necessary to say much on the shipping of extracted honey. Simply put it up in good 60-pound *tin cans*, two in a box, and send it off to market by freight.

Now, I know there are some large and most excellent producers of extracted honey who prefer to use wooden barrels for holding and shipping their honey. No doubt that is all right *for them*, but I don't advise it. Of course, I am not going to try to compel them to use tin cans if they prefer wooden barrels. I would simply say, I believe that perhaps three-fourths of all the extracted honey produced in this country is now shipped in tin cans; and I further believe that within ten years practically all of it will be put up in such packages.

I have no doubt that the barrel has the advantage of cheapness, and is also more easily rolled around than two square cans in a box. But for a strong tendency to spring a leak, and for a miserable job of digging out candied honey, you always can count on the barrel.

For reliquefying, for selling in uniform single-package amounts, for nearly every desirable thing one wants to do with extracted honey, I always commend the 60-pound tin can.

Now, I believe I have not offered one new idea in this whole paper. But it's not my fault. I didn't solicit the job of writing it. It was forced upon me—likely to fill out the program, or because somebody else declined the stupendous honor (?). But no matter now just *why* I was pressed into service for this special occasion. The subject, as well as the paper, is before you for discussion. Both are warranted to take in meek submission whatever you may feel disposed to administer.

GEORGE W. YORK.

Pres. Root—You have the paper before you; now is the opportunity for discussion. On the suggestion of some one the discussion yesterday and the day before on this subject was deferred till after the reading of Mr. York's paper. Now is the time to discuss all these things.

W. J. Pickard—Two years ago I shipped 250,000 pounds of honey in barrels. I did not have any loss; I got paid for the same amount of honey that I shipped; but this year I was advised by our old friend, Mr. York, to use cans. We have used cans to our regret and sorrow. We filled a can to get ready to send away and found it bursted on the bottom and running all over the floor. Or, we would get a can full and get ready to send it away, and find a nail hole on the top or side; all these things we have had. Fill a good barrel with honey and roll it off into a corner and it is sure to be there the next day. We paid about 90 cents for cans; we use a barrel that will hold 350 pounds for 90 cents. It takes a small boy to roll a barrel, and takes a man to handle two 60-pound cans.

C. A. Hatch—I have used honey-cans almost every year, and I have used barrels also; and I have lived in the same county that Mr. Pickard has worked in nearly all my life. I have had more loss in one season with barrels than I ever did in all my experience with cans. I have had 350-pound barrels of honey, the head drop out, and the whole contents run out into a man's wagon-box so it was all lost. The first intimation he had of any disaster was that his feet and lines were wallowing around in honey.

Mr. Taylor—Difference in location!

Mr. Hatch—It isn't the location; I have filled cans from Wisconsin, Arizona, California and Colorado, all the same, from one end of the country to the other. I endorse every word that has been said by Mr. York, but laying all jokes aside, there is this condition about the two packages: If you have a good cooper and know just where you can get your barrels at a reasonable price, and know you can depend on them, the honey that goes to bakers and manufacturers should be put in barrels; but if you want it for retail grocers' trade, you can't beat the can. We have to study our market and find out how honey is consumed, and then put the honey in the package that the market demands, no matter what our opinion is. It was said you have to pay 90 cents for cans; that must be a mistake; the cost is about $\frac{1}{4}$ cent per pound if put in new cans, and about a half a cent if put into barrels. Let me tell you an experience I had with barrels. There was a cooper running a large manufacturing establishment near me, and the man I had been getting my barrels from moved away, and I thought that as long as I could get barrels from that cooper I was all right, but in this case I had to get new barrels, so I told him to send me a sample of his different kinds of barrels that he thought would do for shipping honey. There was one that I thought I would measure and estimate what it would hold, and so I commenced pouring in water at the

pump. I poured and poured; thinks I, that holds an awful sight of water. I thought I would examine it, and I went around the barrel and there it was coming out in a big flat stream as fast as I could pour it in; and, mind you, that was a sample, not regular stock. If that was the case with samples, what would his regular goods be? Only last year I bought five-gallon cans and on taking some of those to market one of them fell down and I lost nearly one-half, besides it daubed the wagon-box and all the other cans.

Mr. Pickard—I wish to call the gentlemen to order. He has his face from me, and I can't tell what he is saying. Take the platform and then we can all hear.

Mr. Hatch—I have said just about all I had to say, any way; but the trouble with Mr. Pickard this year is, he got a few second-hand cans. It must have been some fault in his management of those cans; I filled many more than he did this year out of the same lot, and I had to solder only four or five, and found one rusted on the side so it would leak. Let me tell you a little experience of a friend of mine in loading barrels. We had some 350-pound barrels; two men were handling them and were getting one of them up into the wagon, and the end of the barrel slipped and came down and took the end of his finger off; he couldn't do that with a can. Another time, I myself was hauling honey to the city of Winona; I was delivering a 350-pound barrel in an express-wagon. Crossing the railroad-track ahead of an engine, it tipped over and caught me between the edge of the seat and the barrel; if I had not been in a square position, my arm would have been broken; as it was, I had to carry my arm in a sling a day or two. Every time you handle a barrel with a lot of honey, you have to cooper it. Mr. Pickard has just said if you rolled it up in the corner you would find it there in the morning. If you take it to the depot, you have to cooper it over before it goes on the car; when the man gets it in Chicago, he has to cooper it over unless he puts it in a damp room; if he takes it from a damp room and puts it in a dry room, he has to cooper it over; it needs constant watching. If you have cans and put them in there, they are there to stay until the market takes the honey off your hands.

F. Wilcox—It is hardly a question of location. Mr. Pickard, Mr. Hatch and myself are practically in the same field—from the same place. Mr. Hatch has said about what I intended to say, so I merely agree with him. What I want to say is on the question of market. If the honey is to go to the wholesale buyers, like the National Biscuit Co., use small barrels and half-barrels; it gives them the best satisfaction. But if it is to be consumed by the grocers, by all means I would have five-gallon cans, or small ones, and for reasons which have already been given. The reason for using barrels is that they are cheaper; it costs from 20 to 30 cents per 100 pounds of honey for half-barrels, and from 60 to 65 cents for cans; that difference alone makes all the difference between a profit and a loss when buying and selling honey; and you also sometimes have a loss by having the honey soak into the wood. I prefer to have barrels painted; paint them, then the honey may not ooze out in warm weather thru the pores.

N. E. France—I don't want to bother with tin cans. Both Mr. Hatch and Mr. Pickard appreciate the tin can in its place. I want to call attention to barrel cooperage. Unfortunately, too much of our barrel cooperage has not been properly done, and again, unfortunately, the masses of the bee-keepers spoil that cooperage by soaking it up before putting the honey in it. I have barreled my honey for over 20 years without five pounds of loss over that whole time. In order to make a barrel that is tight, we must kiln-dry the timber; then have iron hoops that we can "drive home," and then keep it dry. This year in the same county where these two gentlemen are living, I found a man with 27 barrels of honey, and to my surprise he said, "What is the reason that I can not make my barrels hold?" I found that he poured boiling water in the barrel before filling with honey, and then after filling it rolled it into the sun, and I don't wonder the staves all fell down as quickly as it got daylight. I buy my barrels in the winter, kiln-dried, and put them in a dry room, and just before filling dry them again until they are thoroly dry, and I will warrant those barrels anywhere. Whether you use barrels or cans depends upon the market; each has its place.

Mr. Pickard—Mr. Hatch seems to think he has had a great many mishaps, cutting off his fingers, and toes, and one thing and another, letting his barrels fall. Last year I handled between six and seven carloads of honey, and never lost a pound by any such accident; I never lost any honey in shipment; everything seemed to be all right; barrels are a great deal cheaper and easier to handle. I un-

loaded some honey last week at our depot in 60-pound cans. I had to go right down and take the honey and lift it up bodily from the platform. I wisht Mr. Hatch had been there to lift them. Had I had it in barrels I could have rolled them right out. I would like to ask Mr. Hatch, Who buys our honey? Where does it go? Where does the honey of the world go—to the table? I don't find it so. I find our honey goes to the manufacturer. My experience with what manufacturers I have known, is that they want it in barrels. I was in a factory not long ago and said to the manager, Which way would you rather have it, in barrels or cans? He said, "Barrels; with them I can roll it right out." I wouldn't give you a cent a can for honey; barrels are cheaper, and, as Mr. France says, if you keep water out of barrels you won't have any leakage.

D. H. Coggshall—In our vicinity, the last ten years, we used kegs, and get good ones; we don't want any second-hand kegs. They hold 210 pounds. Now we get them hoop with flat wooden hoops, 12 on a keg. We got our kegs last February for this year; they are scattered around, most of them, in our different outhouses. We drive those hoops thoroly before we put the honey in, and don't have any leaking to amount to anything; we ship these kegs and are bothered hardly any, and it is a half a cent a pound less expense than it is to put it in cans, and we can sell it for just about the same price. Our New York market, for manufacturing purposes, wouldn't give us any more for it in cans than they would in the kegs, which are made of white poplar, as I understand it. They are thoroly put up in every respect.

Mr. Moore—My experience in this respect has not been very satisfactory. I notice there isn't any certainty that there would be no loss either in barrels or kegs. I know Mr. York told me he got a can the other day that had only about 10 pounds of honey in it when it arrived. It is well known that the Dadants are among the heaviest honey-producers of this country. They state practically what Mr. France did, that barrels are absolutely certain with them if absolutely kiln-dried and well coopered.

Mr. Hatch—I would like to ask Pres. Root what kind of packages their customers prefer?

Pres. Root—I can't say what kind of packages they prefer; a few years ago it seemed to be barrels, and now it is coming more and more in cans. My own personal experience has been more favorable with cans. The first year of foul brood with us dates back to leaky cans. The cans came on the train, and before we could get them off, the honey leaked down on the car and about two weeks after that foul brood started in our apiary. That would not be an argument against cans.

H. N. Chandler—I have had considerable experience with tin cans. I would advise those going to use tin cans not to use second-hand ones. [Applause.] If you use second-hand cans, and lose one can of honey, you have lost enough to pay for the difference between quite a number of second-hand cans and new ones. We tried second-hand cans and lost more in one year than would have paid for the difference between second-hand cans and new cans for five years; I put up 400 or 500 cans a year.

J. A. Green—I want to count myself among the barrel men. One after another has made most of the points I expected to speak on. I will say that my experience has been, with Mr. France and others, that the barrel is almost absolutely certain, while I lost considerable honey in filling new cans, and from honey that was shipped to us in tin cans. There is one barrel that hasn't been spoken of, the hard-wood barrel that Mr. Dadant has used for years; it is a second-hand alcohol barrel. You can get them at almost any drug-store; they come in two sizes, one holding about 350 pounds and the other about 550. Of course, it depends upon your market; my market demands, or at least will take just as readily, those large barrels. When I get an order for a barrel I send one of those 550 pound barrels that cost me \$1.00 or \$1.50 apiece. If they have not been kept a long time in a perfectly dry place, put them in the sun and then tighten the hoops. Somebody said you could not use barrels in Colorado, the climate is too dry. That is what you want: put the barrel in the sun where it will get perfectly dry, then drive down the hoops and fasten them, and you have something that will hold.

Mr. Dunne—Old alcohol barrels are coated with glue, and is the glue any detriment to the honey?

Mr. Chandler—I think it is shellac.

Mr. Dunne—No, it is glue.

Mr. Chandler—I used to wax the barrels inside, or use paraffine, but late years I have not done it.

Mr. Moore—My brother has used alcohol barrels for a

number of years, and I heard him speak in terms of commendation of them. If well coopered they will hold almost anything; I never heard him say a word against them.

Mr. France—While I was down at Mr. Dadant's, I examined those alcohol barrels; I thought I would try them next year for a small portion of my honey, as a large portion of it was going to consumers; but unfortunately I could not get alcohol barrels so clean but what there would be a little of the alcohol flavor to it; therefore I discarded them. I want new packages for honey.

Mr. Hershiser—One other barrel that hasn't been spoken of yet I think is a good barrel; it is the barrel that is used by the glucose manufacturers; they use a basswood barrel, holding 650 to 800 pounds. I have used only a few of these barrels, but I find they are excellent for the purpose; they are paraffined inside; I used second-hand barrels only. In almost every large city where glucose is manufactured, I think they can be had from the manufacturers at very reasonable prices. There is another package that I saw in a manufacturing establishment in Buffalo; it came from Wisconsin. I don't know the producer of the honey that came in those packages, but they were like a candy-pail filled with honey, and had the head put in and the honey was candied. I think that was a very nice package; it would hold, I should think, about 50 pounds. Now, while I am up, I would like to ask if those basswood barrels used by Mr. France are paraffined inside?

Mr. Wilcox—I just want to say, I am sorry to see it go upon record that any member of this convention recommends the use of glucose barrels; glucose barrels filled with honey and sent to any market in the world would excite a suspicion that they had had glucose in, emptied and refilled. I would not use a glucose barrel myself or any syrup barrel, because all syrup so far as I know, is mixt with glucose; therefore I would not buy syrup barrels under any circumstances whatever.

Mr. France—in reply to Mr. Hershiser, I will say that I was asked at one of our conventions if I wanted the barrels, and my reply was no.

Mr. Abbott—I want to suggest the question, Are we not losing sight of a certain market for our honey? I have not heard any remarks on it at all, as I was out during part of your discussion. I have not heard anything said about honey for the home trade. I handle a great deal of honey during the year; but I would no more think of selling to any of my customers honey out of a wooden package than I would think of selling it to them out of a vinegar barrel. Honey, to me, is wholly unfit if it has been in wood at all. I don't know of any way to get honey out of wood without injury; if you scrape it out, you will scrape the wood; it is always filled more or less with sediment. I notified the Dadants if they ever send me honey in a wooden package there won't any more honey come into Missouri address to E. T. Abbott, because I do not want it; I cater to fancy consumers, and I can't use that kind of honey at all. Just now I am using bottles. I am just hunting for somebody that has nice, bright, ripe honey in clean, new cans, where I won't have to pick out the dead bees and pieces of old comb, and strain all sorts of things out—sometimes pieces of cob-pipes and plugs of tobacco, and various other objectionable features. It is all true; I have had that kind of experience, and I simply ask you now, Wouldn't it pay you better if the large producers would cater a little more to this trade? We people who do not produce honey, but sell a great deal of it to consumers, will find you a market for your honey if you give it to us in the right shape. I remember, not a great while ago, I got some honey from a prominent bee-keeper in Iowa; he sent it down to me in some rusty, nasty, stinking looking cans, and it made me sick to look at the cans, much less at the honey. I strained bees' wings out of it, and all sorts of stuff, and had to sell it at less price than I gave for it in order to get rid of it; it came from a prominent bee-keeper, a man who writes for the bee-papers, and thinks himself an authority. I can't sell that kind of honey. I am not saying this to take sides in favor of barrels or cans; I am telling you what we want. Will you not remember us when you are putting up your honey? We don't want any honey in barrels, or any kind of wooden package; we want it in nice, clean, new tin cans.

(Secretary—Pretty good advertisement for Mr. Abbott, and for producers, too.)

Continued next week.)

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

Rearing Queens In Early Spring—Some Advice.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes as follows: "Will you please tell us thru the columns of the American Bee Journal how early in the spring we can commence to rear queens, taking the stage of advancement in drone-rearing as a guide? In other words, if we commence to rear queens when we see larvae in drone-cells, will drones from that larvae be on hand to meet the queens when they are ready? If so, in this way we can tell just when it will do to commence queen-rearing, no matter whether we are located in Canada or Florida."

If the correspondent, or any one else, uses any of the plans by which larvae from 24 to 36 hours old are given to the bees from which to rear queens, said queens will perfect and emerge from their cells in from 11 to 12 days from the time the cells are started, as a rule, for, by an experience covering a period of 30 years I find the average time, taking the seasons as they come, and the season from early spring to late fall, for a queen, is three days in the egg form, nearly six days in the larval form, and seven days in the chrysalis, making a period of nearly 16 days from the time the egg is laid to the time the young queen emerges from her cell. Very warm weather will hasten the development during all stages, to a slight extent; while very cool weather, or inactivity with the bees, as in the fall of the year, retards this development. I have never known this development to be hastened to a greater degree than having the queens emerge from their cells in 15 days; but I have had it so retarded in the fall of the year, especially where queens were reared in upper stories, that they did not emerge from their cells, or become fully mature, till 20 days from the time the egg was laid by the mother queen. But, as I said before, about 16 days is the rule, and it is one which can be depended upon in nine cases out of ten.

Then, as a rule, the young queen does not go out to meet the drone till she is from six to eight days old, seven and one-half days being about the average during the summer months, so we have the time as being not far from 17 to 20 days from the starting to rear queens to the time they would naturally fly out to meet the drones, where everything is favorable. Occasionally a queen will fly from the hive, evidently in search of drones, when from four to five days old; and I have known them to be 28 days old before becoming fertile, but in nine cases out of ten queens are fertilized when from seven to eight days old, when the weather is favorable.

If the above is correct, and I believe it is, then it will be seen that we shall want flying or mature drones in 17 days, at least, from the time we start our queen-cells.

I have not as carefully observed the time of the maturing of drones as I have that of the queens, but from the observations I have made along this line, I find that the drone is in the egg and larval form about 10 days, or one day longer than the workers, and about 14 days in the chrysalis form, making a period of about 24 days from the time the egg is laid to the emerging drone.

From six to eight days after the drone emerges from the cell it goes out for its first flight, to void excrement, mark its location, etc., similar to what the worker-bees do, which is called their first play-spell, during which they mark their location also. After this first flight they go out every pleasant day from 12 to 3 o'clock p.m., to meet the queens, if they are to be found, so that we have about 32 to 34 days from the time the queen lays the eggs in the cells for the drones, to the time they are ready to meet the queens. Therefore, as we had from 17 to 20 days from the time we commenced to rear queens to the time the queens would go out to meet the drones, it will be seen that the drone-eggs should be laid 17 days, at least, before we start to rear queens, and this would bring the time to where the drone-brood would have to be sealed from six to seven days.

Of late years I never commence to rear queens until plenty of sealed drone-brood appears in my drone-rearing colonies. Usually, I wait longer than this, the rule which I adopt being, not to commence to rear queens till the eyes of the chrysalis drone commence to change from the white

color of said chrysalis while in its first stages, to the purple color of its later stage.

And now pardon a word regarding very early queen-rearing. My advice is, don't do it, unless you are willing to treat the colony rearing them in a similar way to which a king treats a new-born heir to the throne, for any neglect on your part will almost surely result in very inferior queens. Very early queen-rearing generally results very unsatisfactorily in this locality, as the colonies used for this purpose have to be petted and pampered, by way of feeding, often in very unsuitable weather for the breeder to be out in; carried indoor on cold nights, so as to keep up the desired temperature, etc., while the colonies used for this purpose are very much retarded, about building up, and the queens do not come up to the standard of perfection, unless the care of an old veteran is used in seeing that all the requisites of a perfect development are present, which is well nigh-impossible, in this locality, during March, April, and the first half of May. June, July and August are the months, during which the rank and file can rear good queens with the least trouble here at the North.

Onondaga Co., N. Y.



What Is Meant By "Cooling Beeswax Slowly?"

BY F. GREINER.

IT will now seem as tho all the difference that existed on the matter of how to produce nice yellow wax will be laid by, or at least as soon as we fully understand the meanings of the terms used. I do not think there would have been any difference at all had it been clearly defined where the cooling is to commence and where to end. An illustration of the status would be this:

The little mountain stream passing by my house answers many of the purposes of the city water-works. We use this water for washing, rinsing, etc. When I catch a pailful of this water I can notice particles of foreign matter, perhaps soil, vegetable matter, etc., in it, and I have found out, by *experience*, if I give the water a little time all visible particles will settle down to the bottom of the pail. Along comes a gentleman from another clime. "Nonsense," he says; "after the water has become solid, no amount of cooling will cause any of those impurities to settle. It will remain just as it is forever." And he is right, perfectly right. All the difference is, I was experimenting with liquid water, and the other gentleman had the frozen article in his mind. As soon as we find out what the other means we agree perfectly.

Beeswax "freezes" at a much higher temperature than water, but that does not alter the case any. Particles of dirt or other substances can not settle any more after it has become solid. I don't think any person of sense had expected it, even should the cooling process be carried to the greatest extreme. In this respect frozen water and frozen wax behave exactly alike.

In my 25 years' experience as a bee-keeper it has happened at least *several* times that I have melted up wax. With my facilities I never have been able to melt a batch without its coming to the boiling-point. This is exactly the point where the cooling commences, with me. I have explained a number of times in other papers how this cooling (slowly) should be managed. The impurities in the wax must have time to settle while the latter is in a *melted and quiet state*. I consider the cooling process ended when the wax solidifies, altho my idea may not be *express* properly.

Ontario Co., N. Y.



Naturally Built Combs, vs. Comb Foundation —A Reply.

BY C. P. DADANT.

IT is only since my return home from Europe that I have noticed the two articles of Mr. Deacon, of South Africa, published August 16th and 23d, 1900, in reply to some articles from me published in 1897. I had concluded to allow a similar length of time to elapse, between his notes and my next reply, as were put between our former discussions; but some of our friends seem to be impatient for a word from me.

I will leave aside the very important facts that the use of comb foundation secures straight combs and worker-combs exclusively, altho all who have tried these matters know the importance of them, and Mr. B. A. Hodsell, on page 630 (1900) has already fully covered these points.

Mr. Deacon lays great stress on Simmins' experiments as to the cost of beeswax to the bees. I must acknowledge that if I had ever read of these experiments I had forgotten them. But they seem to me to be faulty from the start. Mr. Simmins experimented with a swarm weighing three pounds, but does not seem to have taken into account the quantity of honey those bees had in their honey-sacks when hived. Bees that swarm, or that are disturbed and transferred from one hive to another, always gorge themselves with honey to the utmost, and in the case of this experiment must have been so loaded. He figures that it took 12 4-5 pounds of honey for one pound of wax, and then goes on and deducts the quantity of honey that was consumed by the bees. I can not see the wisdom of this. Surely, bees must live while they build combs, and the cost of their board should be reckoned in the total cost.

If we figure up the cost of an article that we produce, we should count up our board while we are producing it, together with other expenses. So, in my mind, the 12 4-5 pounds is nearer the right amount than the 6 2-5 which he gives as correct, while still estimating the actual amount at even less.

Mr. Simmins is not the only man who has made experiments concerning the cost of wax. Huber, a Swiss, found that nearly 20 pounds were needed. Berlepsch, a German, made it from 11 to 20 pounds, according to circumstances. Since that time experiments have been tried over and over, and the lowest report I remember, made on a practical test, with bees in freedom, was made by Mr. Viallon, an American, with two swarms of equal weight; but he forgot to take into account the amount of honey spent for the brood reared by the hive to which full combs were given, when comparing with the swarm that had to build the combs, and yet he put the amount at 7 to 8 pounds. The quantity would probably have been raised to the general average of 11 or 12 pounds had he taken the brood-rearing into consideration.

Authorities confirm the high cost of comb. Prof. Cook says that his own experiments confirm Huber's test of 20 pounds being needed. T. W. Cowan (English) puts it at 13 to 20. Cheshire (English) says it takes "many pounds."

The assertion that wax secreted is wasted when foundation is furnished, does not hold together. Bees do secrete a little wax when the crop is abundant, and they always have good use for it, for no one ever can furnish them foundation in such shape that they can fill every part of every comb. Any bee-keeper who uses foundation has seen where they put the wax secreted, for it is whiter than the other. There are always plenty of nooks and corners to fill, and combs to seal. But when there are no combs at all, we all know that they have to hang in festoons and remain idle, probably because they must wait till the honey is digested and the wax is secreted, and because there is no room for more honey till some comb is built. So does the queen lose time, when they are hived upon empty frames, and they have to build combs before she can lay.

Mr. D. makes a play on words about the expression "drawing out" the foundation. He implies that we mean that the bees get behind each other, and, pulling at each other's jacket, thus stretch the foundation, by pulling on it. But he surely knows what we all understand by these words. I use them because everybody does, and we all know that the bees manipulate the wax with their mandibles, and that it is quickly done. A comb of foundation given to a strong colony in the evening will often be all drawn out and eggs laid in it by morning. Are they not also always remodeling their naturally built combs? When combs are whitened, at the beginning of a harvest, it is very difficult to tell just where the bees began, and we can see that they have remodeled a portion of the old comb to mix the new wax with it.

Mr. Deacon denies my assertion of the Americans being practical, and says that they "take an amazingly long time to realize the uselessness of a thing." I must say that in the matter of comb foundation even the all-wise Britishers are also apparently deluding themselves, for, besides what they make, they import thousands of pounds of this *useless* foundation into Great Britain. They are badly in need of a few arguments from our South African friend.

But this manner of denying the correctness of progress, after so long a time, reminds me of the French editor Hamet, who, 20 years after the invention of the movable-frame hive, still persisted in calling it "a puppet show," and the honey-extractor "a useless toy."

And as to the practical tact of our Americans, I feel

free to speak of it, being a foreigner myself, by birth. The honey-extractor, the bee-smoker, the much-abused foundation, are all European inventions, but take the bee-journals of 25 years ago, and see who took hold and improved and made these things practical and put them to use. Americans, of course. The Europeans only followed. Hancock Co., Ill.

* The Afterthought. *

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

THINK NEITHER HONEY NOR SUGAR CAUSED IT.

That life-insurance doctor on page 809, he was presumably wrong in crediting sugary urine to the consumption of honey. Moreover (altho a defiance of authorities, and possibly a sad mistake of mine), I will go further and make a pretty decided statement of my private opinion that neither sugar nor honey had anything to do with it. Pestilent old-grannyism has not all been eliminated from medical practice yet; and I doubt whether the present warfare against sweets is any better founded than the warfare of 60 years ago against drinking water. At that time almost any patient could be depended upon to die if he succeeded (by bribery or otherwise) in getting a cool drink of water.

A THREE-SCORE-AND-FOUR BEE-KEEPER.

Most of us will have to take off our hats and make a bow to Dr. Besse, with his 64 years of continuous bee-keeping. We can't even fib about it when the boys all know that our cradles are not yet 64 years back. And the boy who earns a hive of bees this summer, and continues in the business 64 years, what sort of hive and manipulation will he arrive at A. D. 1965? Page 811.

TONGUE MEASUREMENTS VS. HONEY-STORAGE.

Anent the paper of J. M. Rankin, of the Michigan Agricultural College, I will confess that I have felt all along strong suspicions that dissecting bees and measuring their tongues was a deceptive and unreliable way of getting at things. I had a sort of idea that length depended much on the amount of injection with blood and other fluids incident to life, and that cutting the member off would, of course, let all fluids loose, that there would necessarily be contraction, and that the amount of the contraction would not be at all uniform—temperature, length of time the bee had been dead, and other things, playing bewildering roles. May be I'm wrong. Don't want to be out of fashion. The idea is in the air,—breed from bees whose tongues measure high. Measurement, if it is even approximately reliable, is much more to the point than honey-storage. The latter is almost hopelessly fortuitous, except to long and skilled experiment, while the former gives us something to go by *at once* if we want to improve our bees. Get the tongues, and sooner or later the tongues will get the honey. The way the publisht lengths agree with the honey-storing reputation of the colony seems to be reassuring. But the millimeters are rather grinding to us. Few of us have any mental picture within as to how short meters or how long meters they may happen to be. I'll come to my own rescue and yours by figuring out that the best 240-pounder bees were snouted up to over 23 hundredths of an inch, while the yellow 135 pounders scored less than 20 hundredths—the exact figures being .236 plus and .197 minus, respectively. Strikes me we have had but few publisht measurements of this sort to beat .236. And .197 is not a bad measure. Page 812.

SEEING ALL OF THE 20TH CENTURY.

"In all probability very few now living will see all of the 20th century." Editorial, page 819. Tut, tut, dear George W.! That's not the way to talk it. To defeat the microbes and add 50 years or more to average human life, is not half so wonderful a triumph—not half so wonderful a *medical* triumph—as some the nineteenth century won for us. Don't start out by telling us that the twentieth century must, of course, do less.



Mr. O. O. Poppleton, of Florida.

We are pleased to be able to present on our front page this week a most excellent picture of O. O. Poppleton, of Dade Co., Fla. He was born near Green Springs, Ohio, June 8, 1843. In 1855 he removed to Chickasaw Co., Iowa, where he lived until 1887, when he went to Florida, on account of his health. Excepting about two years at Oberlin College his education was obtained in the common schools.

In October, 1861, he enlisted as a private in the 7th Iowa Infantry, and re-enlisted as a veteran in 1863. In February, 1864, he was promoted to a lieutenancy, and a few months later was made regimental adjutant. While performing his duties overwork resulted in eye-trouble, which has seriously affected his health ever since. After the war he went to farming in Iowa, and married a Miss Groom, who died 12 years later, leaving him two daughters.

Dec. 6, 1881, he married Mrs. Mattie Herrick, of Ft. Wayne, Ind. On account of poor health and the very severe Iowa winters, they went to Florida during the cold seasons for several years, where they found the change of climate, with outdoor living, greatly improved his health.

When first married he was given a colony of bees in a box-hive. It so happened that in the winter of 1869 he became acquainted with a bee-paper that is now extinct. He was very much interested in it, and very soon obtained all the literature on bees he could find, thus learning that there was a better way of handling bees than in box-hives. He soon obtained movable-frame hives, and in a year or so had quite an apiary, which, in common with many others, was almost destroyed by bad wintering in northern Iowa. But the use of chaff-hives removed this trouble for the future. On account of such poor health he made no effort to do a large business with bees, but kept from 75 to 150 colonies, spring count, and devoted himself almost exclusively to the production of extracted honey. For the last ten years that he lived in Iowa his annual crop averaged 110 pounds per colony.

More than 25 years ago he discovered the value of chaff as a winter protection for bees. He also invented the solar wax-extractor about the same time. For several years he was vice-president of the National Bee-Keepers' Association, president of the Iowa State Association, and honorary member of the Michigan Association. He has ever been a careful observer, doing his own thinking and adhering to plans which he had found successful.

Over ten years ago Mr. Poppleton kept bees for two years in Cuba, the Dussag apiary in his charge containing from 400 to 500 colonies. During the winter of 1888-89, 398 colonies gave a crop of 52,000 pounds of extracted honey, or about 130 pounds per colony—a larger gross yield from one locality, but less average yield per colony, than has been frequent with him both in Iowa and Florida.

On removing to Florida in December, 1889, and looking over the situation, he decided to practice migratory bee-keeping, keeping his bees at what is now his home in Dade Co., on the banks of the St. Lucie River, from October to June, and at Hawk's Park from June to October. His home was the best winter location, while at Hawk's Park was the best-known field for black mangrove in the State. The two locations were about 150 miles apart by water, and the bees were moved on lighters drawn by steam-tugs. His losses in all this moving were no colonies at all, about one-half dozen combs broken down, and a few dead bees in some of the hives. The four seasons he kept bees in this way gave him average yields per colony, spring count—273, 291, 82, and 300 pounds. The mangrove was frozen down so badly in the winter of 1894-95 that he has changed the location of his bees to a place 35 miles north of his present home—a location with some black mangrove, but much inferior to what Hawk's Park was before the freeze. His average yield since 1894 has been some over 100 pounds per colony—about the same as he used to get in northern Iowa.

Owing to the poor health which drove him to Florida, Mr. Poppleton has not tried to do a large business, but has kept only bees enough to give him a fair living. He also

has a small patch of pineapple, giving from 25 to 100 barrels of fruit annually. He will increase the acreage of this fruit in the near future.

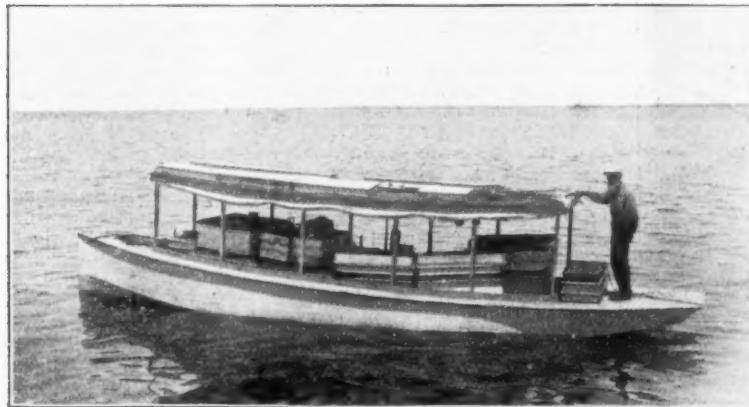
Mr. Poppleton's wife died about five years ago. His remaining family is a married daughter and her two children living in Florida, about 70 miles north of where Mr. Poppleton's home is in Dade County; he has also an unmarried daughter living near his old home in Iowa, taking care of her aged grandfather.

Referring to his migratory bee-keeping and methods employed, Mr. Poppleton wrote us as follows:

MIGRATORY BEE-KEEPING WITH A GASOLINE LAUNCH.

Moving bees on the water has been a favorite method since ancient times wherever migratory bee-keeping was practiced. Nearly all the different kinds of boats known have been in use for that purpose. Of late years a favorite plan has been on lighters towed by steam-tugs. These are all right if one could always secure them just when needed. Some use sailboats, which are quite cheap to use, but quite uncertain and unsatisfactory. I have used both methods within the past ten years, but found them faulty for the reasons given.

About two years ago I had built for me the launch "Thelma," probably the first gasoline-power boat in America that was designed and built especially for general apiary work, such as moving bees from one location to another, carrying honey to the railroad, going from one apiary to another, etc. She is 28 feet long, 6 feet 8 inches beam, and is



Mr. Poppleton's Gasoline Launch "Thelma."

driven by a 3 horse-power "Globe" electric gasoline engine. She is what is known locally as a "Skipjack" model, giving for a boat of that size a low and large floor space, some 80 square feet of the latter aside from the engine space. She will carry at a time about three tons of honey, or about 60 colonies of bees in single-story Langstroth hives. Her speed is about six miles an hour on an all-day's run. The engine-power is smaller in proportion to the size of boat than any other boat I know of. To have put in the next larger size of engine would have cost \$300 more, first cost, and 50 percent more per mile to run, and added not to exceed 25 percent to the speed. It costs about 2½ cents per mile to run for gasoline, electricity, and oil, or less than the average railroad fare for one person. At least 20 people can ride in the boat at one time with comfort.

The picture of the boat shown herewith was taken last summer at Fort Pierce, while on my road home from Indian River Inlet with a load of bees.

The boat can also be used for pleasure-trips. Within the past month a nephew and niece from Ohio were visiting me, and the three of us spent nearly two weeks in cruising a hundred miles down the coast and back, stopping along as we pleased, to hunt, fish, view tropical scenery, etc. We had a gasoline stove, cooking utensils, dishes, and beds, in the boat, and made it our home while gone.

The boat is quite a different model from any other heretofore in these waters, but has been so generally successful for an all-purpose boat that already one other has been built of the same style, and others soon will be. It would be very unpleasant for me now, if I should have to go back to the use of a sailboat or hired steam-tugs.

Dade Co., Fla., Dec. 18, 1900.

O. O. POPPLETON.

We might add in concluding this sketch of Mr. Poppleton, that we have had a personal acquaintance with him for some years, and count him as one of the best in all bee-dom. We have often tried to get him to contribute regularly to the columns of the American Bee Journal, but on account of his eye-trouble and general poor health he has been unable to undertake the work.

We hope that he may be spared many years to the remaining members of his family, and to the host of bee-keeping friends who appreciate his character and his efforts in behalf of advanced and progressive methods in apiculture.

Questions and Answers.

Introducing Queens—Supers on in Winter.

1. Will it do to introduce queens during the winter months where the old ones are too old to be of any use, or where the queen has died and left no brood? I am a beginner, have 30 colonies, and fear that there are some that need new queens.

2. They are outdoors, but all have double hives packed with dry leaves all around. I left the supers on all that are partly filled with combs, as I have no place to keep them. Have I done right? If not, what shall I do?

KANSAS.

ANSWERS.—1. Better not do anything about introducing queens till spring. It will be very hard for you to tell now whether a colony has a queen or not, for there will be on brood in the hive in most cases, even with the best of queens, and you may lose queens by trying to introduce now.

2. They are probably all right so far as the bees are concerned. But if you mean you have left on supers with partly filled sections, it will be rather rough on the sections. They will likely be darkened too much for first-class sections. But it will be hardly wise to disturb them now.

A Question on a Honey-Deal.

A sold to B 20 barrels of honey, B to pay A prompt cash on board the cars at A's railroad station. A delivered the honey at the station in good condition. When the honey arrived at B's station one barrel had the head knocked out, and the contents all gone. B made claim on the railroad company for the barrel of honey, and insists on A waiting for his pay for that barrel until he gets it from the railroad company. A insists that the honey was B's as soon as it was delivered at the railroad station, and that B should pay A for the honey, and not wait for the railroad company. Who was right, A or B? In other words, if the railroad company does not pay for the barrel of honey, who should be the loser?

SUBSCRIBER.

ANSWER.—Unless there was some specific agreement to the contrary, it would seem that if B was to pay cash for the honey delivered on board cars at A's station, that A's ownership of the honey would end at A's station, and having fulfilled his part of the contract he should be paid the stipulated price, no matter what the railroad company might afterward do with the honey. [As our opinion is asked on this question, we would say that we agree with Dr. Miller's answer.—EDITOR.]

Judging Queenlessness and Winter Stores Externally—Management with More than Two Stories.

1. Is there any way of knowing from external appearances if a colony is queenless?

2. What is the best way of determining if a colony has sufficient winter stores? As my hives are all of the same pattern, it might be done by weighing, if known what the bees weighed. Can you tell me what an average colony will weigh?

3. How is a colony run with more than two stories—a body and a super? Does the queen circulate between the first and second, and a queen-excluder on top of the second, and the honey stored in the third story? Or should there be an excluder on the top of the first, and honey stored in the second and third? If so, is there any advantage in it? Why not use only the second story for surplus, and extract as often as is necessary?

KANSAS.

ANSWERS.—1. None so good as looking into the hive, and at this time of year it may not be easy to tell them, for queens are not likely to be laying now in the North. But you can judge something from the outside. If there comes

now a day when bees fly, and you find the bees of a colony running over the outside as if hunting for a queen, or if they continue uneasy after the other colonies have stopt flying, and have settled down to quietness, you may at least entertain suspicions of queenlessness. If you pound on a hive while holding your ear to it, there will be a response from the bees, and then a prompt quieting down if their queen is all right. It will be something more like a wail if they are queenless. In the working season you may be somewhat suspicious of a colony that appears very listless, and that carries in little or no pollen when other colonies are carrying in big loads.

2. If you find out the weight of a hive with its combs and a good store of pollen, then add to that ten pounds for the weight of the bees, you will be pretty safe in counting that any excess over this is honey. One of the best ways to tell how much honey there is in a hive is by actually lifting out the combs and seeing how much honey is present. Even then you may not be so very exact about it, for you can not tell how many cells have pollen under the sealed honey. The safe way is to make allowance for a liberal amount of pollen, for there is little danger of harm being done by too much honey in the fall or beginning of winter.

3. Sometimes one story is allowed for the queen, then an excluder, then one or more extracting stories. Sometimes the excluder is put over the second story, allowing the queen to use two stories. If 8-frame hives are used, the two stories for the queen are more needed than if 10-frame hives are used. You can use a single story for extracting frames, but that makes it necessary to extract oftener, and makes it more difficult to have the honey well ripened. If for any reason you must have a single extracting story, it may not be a bad plan for you to extract only half the combs at one extracting, then the other half at the next extracting, and so on. That will give less chance for unripened honey, but will make you extract oftener than if you extracted all the frames at one time.

Removing Bees from the Side of a House.

A neighbor has a large swarm of bees in the side of his house, and wants them taken out. How could I drive them out and save them? I would like to drive them into a hive. I am told that some medicine will drive them out. They are very cross, but are wonderful honey-gatherers.

CALIFORNIA.

ANSWER.—The fumes of carbolic acid are very offensive to bees, and if enough of the acid is poured into the place it will surely drive the bees. If a frame of brood be held at the place where they come out, they would probably occupy it promptly, and if it could then be put into a hive, and the hive be placed so that the bees could run right into the entrance of the hive as they come out of their hiding-place, the effort to hive them ought to be successful. There is a possibility, however, that there is so much room where they are that they would merely move to another place away from their combs, and you would be no better off than before. If so, there may be no certain way to get them out without cutting away part of the wall and cutting out the combs, removing bees and combs together.

Sections Open on Four Sides—Packing Material.

I am about to buy my bee-supplies for this year, and would like advice on a few points.

1. Is there any advantage in using sections open on all four sides? I used them last year; my notion in doing so was that it gives the bees free access to any part of the surplus department easily and readily. With sections open on two sides, should a laden bee get in the department already full, she has to look around for a place to deposit her load, thereby losing valuable time.

2. Is excelsior good for the surplus department in winter?

3. Is the cork that grapes are packt in good or better than excelsior? I can get all I want of either cork or excelsior.

NORTH CAROLINA.

ANSWERS.—1. Some think that sections open on all four sides are better, for the reasons you give. Perhaps there may be some advantage in having more free communication, but it can hardly make very much difference, for if I am not mistaken, most bee-keepers cling to the sections with openings at top and bottom, and sides closed; altho some years ago much was said about sections with four bee-ways, and if they were much better they ought to have

come into general use. If a bee with a load of honey were to enter a super for the first time, and should get into a section already entirely filled, it would no doubt be a convenience to have a side passage directly into a section still offering room. But that is hardly the condition. Mr. Doolittle tells us that it is not the field-bees that deposit the honey in the sections, but that the field-bees dump their loads in the first convenient place in the brood-chamber, and then a set of bees that do not go afield carry from below into the sections. Is it not probable that these inside carriers are quite familiar with the room upstairs, so that they may go generally to those parts of the super where they are sure there is room?

2. Excelsior, if dry, may answer for packing, but planer-shavings are generally preferred to excelsior, possibly because the planer-shavings are more compact.

3. Ground cork is one of the very best things for packing, and is considered away ahead of excelsior.

Feeding Bees in Winter.

What is the best way to feed at this time of the year? I have three colonies in the cellar, and three on the summer stands packt in chaff. Is it best to feed syrup, candy (if candy, what kind?), or granulated sugar dry?

ILLINOIS.

ANSWER.—The best way is to do your feeding as soon as possible after the bees have stopt gathering, whether that be in August or later. But sometimes circumstances are such that we can not do what we would like, and then we must do the best we can. Certainly it would be unwise to let a colony starve rather than to feed this time of the year. Don't think of feeding syrup now. Giving combs of sealed honey is much better. But in all probability that's about as good advice as telling you how to feed last August, for it's a pretty safe thing to assume that you haven't any combs of sealed honey. Granulated sugar dry would be little better than so much sand. The bees couldn't do anything with it. Candy is the thing, the best perhaps being the "Good" candy, made with powdered sugar and extracted honey. Warm the honey (I'd say heat it, only you might then burn it, and that would make it poison for the bees), and stir into it all the powdered sugar you can. Then knead it like dough, adding all the sugar you can work in till you have a stiff dough. Put a cake of this, perhaps an inch thick, over the brood-frames, and cover up warm. Plain candy, made of granulated sugar, the same as any confectioner makes, will also do.

Robbing—Making Comb Into Beeswax.

1. Will bees on the side of a hill rob those below, say about 50 feet lower, and about 400 feet apart?

How can make old comb into beeswax?

MAINE.

ANSWERS.—1. Such location would make no difference in the matter of robbing. Bees are just as likely to rob those below. Other conditions than those of position are responsible for starting robbing. A queenless or very weak colony is likely to be a victim, and the case is aggravated if there is too large an entrance, or if the appetites of the robbers are whetted by having combs or honey exposed so as to give them a taste.

2. A good solar extractor is perhaps the best thing. You may have something to act much in the same way by having an old dripping-pan and a cook-stove. Split open one corner of the dripping-pan, and put it in the oven of the cook-stove, with the split corner projecting out. A little stone, or something of the kind, should be put under the end of the dripping-pan that is inside, so as to make the wax run toward the split corner. Of course, the pieces of comb must be laid in the dripping-pan, and the door of the oven must be left open. Whether you use the dripping-pan or the solar wax-extractor, if you pile on a lot of pieces of old comb you will find that the cocoons of the old comb will act a little like a sponge, and will be filled with wax that you will not get. There will be less waste in this way if you put in your pan only a single thickness of comb at a time. A good way is to soak the combs thoroly in water before putting them in the pan. Then break them up and pile on what you like. The cocoons being already filled with water can not become filled with wax as they would if dry. A dish must be set on the floor to catch the wax as it drops from the pan, and it is well to have in the bottom of this outside vessel a little hot water.

DR. PEIRO

34 Central Music Hall, CHICAGO.

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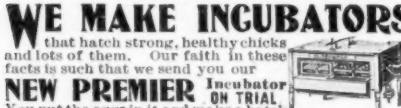
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GENERAL ITEMS

Wintering Well—Prospects Good.

Bees are wintering well, while early snow preceded by soaking rains blancketed the best start of white clover we have had for several years. The prospects so far are not to be complained of. H. G. ACKLIN.

Ramsey Co., Minn., Jan. 16.

The "Nameless" Bee Disease.

The past year has been a poor one for bees, but I think mine gathered enough to carry them thru the winter.

I had a little experience with the "Nameless" bee-disease last fall. One colony was so bad that it could not defend itself from robbers. I covered the hive with a sheet at night, and exchanged the stands, and the next spring there was no sign of the disease left, and last fall they seemed to be as good as any colony I have.

CHAS. BLACKBURN.

Buchanan Co., Iowa, Dec. 31.

A Bee-Keepers' Institute.

The bee-keepers' institute was held at Johnstown, N. Y., Dec. 18, 1900, and a goodly number of bee-keepers were present.

The meeting was called to order by one of the State bee-inspectors, Chas. Stewart. Mr. W. Z. Hutchinson delivered an able address on "The Use and Abuse of Comb Foundation," and an interesting discussion followed.

At the close of this meeting an association was organized for Fulton and Montgomery counties, and the following officers were elected: President, J. W. Hoffman; 1st Vice-President, G. H. Adams; 2d Vice-President, E. W. Rean; 3d Vice-President, G. W. Haines; Secretary, T. I. Dugdale, West Galway, N. Y.; and Treasurer, D. E. Floyd. A number of members were received, and the next meeting will be at Fonda, N. Y., the first Tuesday in May. G. W. HAINES.

Fulton Co., N. Y., Jan. 7.

Managing Bees—Carniolans.

I ran three of my colonies last season on a different plan from what I have been doing, and got \$45 worth of No. 1 comb honey from the three; and I am going to try the same thing the coming season, and if it comes out all right I will give you the plan.

I had a fine colony of Carniolans which had one super on early in May; I was thinking of slipping another one under it, and before I got ready to do so a swarm issued and went some distance before it settled. After it clustered I hived it and brought it home. It was a powerful swarm. In a day or two I was out in the apiary and noticed a stream of bees going in and out at this new colony. I did not at first think much about it, because I knew it was a very large swarm, and thought they were hustling, and concluded that those Carniolans were dandies. When I finished my work I went over to look

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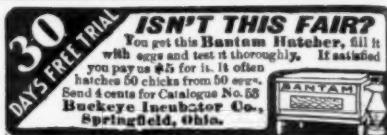
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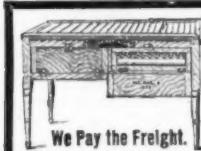
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work eight days myself. Counting my work worth \$2.50 per day would be \$20, hence my spring valuation and all expense to date would be \$163.

My bees increase 10 colonies, which at \$4.00 per colony would be worth \$40; I extracted 22 cases of honey, 120 pounds per case, or 2,640 pounds, which sold at 6 cents per pound would bring \$158.40. This with the increase worth \$40 makes a total of \$198.40, the income on a \$163 investment, allowing myself \$2.50 per day for the time I work. How is that for a greenhorn?

C. E. STEVENS.

San Diego Co., Calif., Jan. 2.

Did Fairly Well—Paper-Bag Feeder.

My bees did fairly well the forepart of the summer, but the fall crop of honey was an entire failure on account of the dry weather, tho all had a good supply for winter stores. One colony that did not swarm stored 54 pounds of honey, besides having plenty for winter. The colonies that swarmed stored no surplus honey; I had \$11 worth in all. I sold one colony, and put 12 into winter quarters on the summer stands.

I do not quite understand Mr. Kernan's article (page 606, 1900) on paper-bag feeders, and wish he would be kind enough to give his plan a little more completely, in the Bee Journal. Does he make the pin-holes on the top of the sack, or where? and does he make many of them? I was quite favorably impressed with the plan, as I have so much feeding to do, and no one to help me.

MRS. SARAH J. GRIFFITH.

Cumberland Co., N. J., Jan. 2.

Report For the Season of 1900.

I had 120 colonies, spring count; I divided the strong colonies and now have 165 in fair condition, I hope. I have done nothing with them since July, but manzanita is beginning to bloom and I must overhaul them at once.

The amount realized on honey the past season averaged about \$2.00 per colony. It has been higher than I have ever seen it since I have kept bees.

C. W. KERLIN.

Monterey Co., Cal. Jan. 1.

“Reducing the Swarming Habit.”

My bees are in fine condition; the weather could not be better for them to clean house, and have a good flight.

On page 819 (1900) I noticed an editorial on “Reducing the Swarming Habit.” I can agree with Mr. Lathrop and Mr. McNay (and many other bee-keepers can do likewise), in saying that by careful attention on the part of the bee-keeper swarming can be discouraged, but I can not agree with them in saying that bees can be reared that will be non-swarmers, for this reason:

I have been keeping bees—tho not continuously—since 1883. I sold out in Nov., 1897, but started again in the business in 1899 with 7 colonies, which I have increased to 13; in all these years I have had but two natural swarms. When I sold out in 1897 one bee-keeper bought 4 colonies that I had had for 6 years—one colony with a 3-year-old queen, two colonies with two-year-old queens, and one colony with a queen of July, 1897—and in all that time they

had never swarmed under my treatment. But in July, 1898, this bee-keeper informed me that 2 of the 4 colonies had swarmed and that from one of them an after-swarm had issued.

I have bought, and received in other ways, strains of bees from the apiaries of some of our most noted bee-keepers; some of them have not had the opportunity to swarm, and others I have succeeded in preventing from it.

Personally, I do not believe it is to the best interests of the bee-keeper to discourage his bees from natural swarming. Better results will be secured if the bees that are gentle are allowed to increase in the natural way; but bees that have cross dispositions ought to be prevented from swarming, as it acts very much like taking the horns off of the stubborn ox and putting it on a level with the lamb.

DANA H. GRAHAM.
Lancaster Co., Pa., Dec. 31.

Seem To Be Wintering Well.

Bees are flying to-day, and seem to be wintering fairly well.

ELVERT W. HAAG.
Stark Co., Ohio, Jan. 11.

Poor Season—The Bee Journal.

The past has been the poorest season for honey in this locality in many years. I secured 26 good colonies in two-story 10-frame hives, and they nearly filled the supers.

I would not think of getting along without the Bee Journal. I have read and reread three of the standard bee-books during the last year, and am well satisfied that the copies of the Journal for the past two years are worth more to a beginner than all of these books put together. The textbooks are all excellent, and well fill the place for which they are intended, but the amount of original thought and experience which we get from conventions and otherwise thru the Journal are above everything else.

S. N. SALSBURY.
Cochise Co., Ariz., Jan. 1.

Smallest Crop in Years.

We had the smallest honey-crop in this county the past season that we have had in a number of years; in many apiaries the bees stored no surplus. The goldenrod and wild aster yielded no nectar, and the oldest bee-keepers say that this never happened before in this "neck of the woods."

Our bees had their last flight Nov. 6th, and will probably be in winter quarters until April 1st. Many colonies are very light in stores. We winter them in the cellar, and they are now in splendid condition.

We had plenty of warm rains late in the fall, early snows, and no frost is in the ground. The clovers are doing well, and we are sure of a big crop next season.

WM. ROBINSON.
Barron Co., Wis., Jan. 7.

A Canvassing Experience.

If every one could get as much fun out of canvassing for new subscribers as I have, I think you would have plenty of agents. I called on one old gentleman, and, after showing him

the Bee Journal, I told him that if he expected to be successful in keeping bees he should keep posted and read a bright, wide-awake journal. His reply was, "Look here, Donaldson, I kept bees before you were born, and I have forgotten more about them than you know. I tell you it's all luck." I then asked him how it happened that my bees came thru the winter all right when bee-keepers around me lost all that they had. He replied, "You were lucky; that's all there is to it." I thought my next question would "floor" him, so I asked him how he accounted for the fact that I secured a good honey-crop when others did not get any. He replied, "I tell you it's all luck; you'll see, your luck will change, too. I had just as good bees as you have, and the first thing I knew they were all gone. The worms ate them all up." I concluded he was a hopeless case.

J. M. DONALDSON.
Worcester Co., Mass., Jan. 1.

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MANDOLIN—Solid Rosewood, 19 ribs; celluloid front; veneered head piece; handsomely inlaid. Elegant French Polish. Patent head, engraved tail-piece. Worth \$15. **My Price, Only \$7. with leather bound case, extra set of strings and tortoise pick. Send for circulars of high grade musical instruments of all kinds.**

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this summer on account of the 1901 Pan-American Exposition will be the Nickel Plate Road. Countless thousands will visit this one of the greatest expositions of modern times. The Nickel Plate Road will be the popular line. The excellence of its service is well recognized by the traveling public, and the reputation of its train employees in their uniform courtesy to passengers is well known. When you go East see that your tickets read *via* the Nickel Plate Road. Write, wire, 'phone or call on John Y. Calahan, General Agent, 111 Adams, St., Chicago, Ill.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Jan. 19.—Honey is selling slowly; this applies to all grades with the exception of white clover and basswood comb honey, which sells readily at 16c providing it grades No. 1 or better. All other kinds of white comb honey sell at from 14@15c, and candied white comb at 8@10c; travel-stained and off-grades of comb, 13@14c; amber, 12@13c; amber extracted, 7@7½c; dark and buckwheat comb honey, 9@10c. Extracted, white, 7c, 7½@8c; basswood and white clover bringing the outside prices; buckwheat and other dark grades, 6@6½c. Beeswax, 28c.

R. A. BURNETT & Co.

KANSAS CITY, Dec. 21.—Honey market firm, steady. Fancy white comb, 24-section case, \$3.50 to \$3.75; 12-section case, \$1.90 to \$2.00; amber, case, \$3.00 to \$3.25. Extracted, white, 8@9c; supply fair; receipts and demand good. Beeswax, 22@30c. Demand fair.

W. R. CROMWELL PRODUCE Co.,
Successors to C. C. Clemons & Co.

BUFFALO, Jan. 17.—All kinds of honey are so quiet it is difficult to make a sale. Occasionally some sells, fancy 14@15c; few, 16c; choice and No. 1, 12@13c; few, 14c; but dark, 9@10c, and all kinds in liberal supply; some may have to be reconsigned. Extracted, 7@8c, and not wanted in Buffalo. Beeswax, 22@27.

BATTERSON & Co.

ALBANY, N. Y., Jan. 18.—Honey market is dull on all grades now, with light stock and light demand. White comb in good condition, not candied, 15@16c; mixt, 13@14c; buckwheat, 12@13½c; mixt, 11@11½c. Extracted, white, 8@8½c; mixt, 6@6½c; dark, 5½c.

H. R. WRIGHT.

BOSTON, Jan. 18.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Jan. 16.—Market very quiet. No change in prices. Fancy white comb sells for 16c. Extracted, dark, sells for 5½c, and better grades bring 6@6½c. Fancy white table honey brings from 8½@9c.

C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1, white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.

HILDRETH & SEGELEKIN.

DETROIT, Jan. 19.—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c. Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c.

M. H. HUNT & SON.

SAN FRANCISCO, Jan. 9.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6½@7½c; amber, 5½@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

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Sweet Clover (white)	60c	\$1.00	\$2.25	\$4.00
Sweet Clover (yellow)	\$1.50	2.50	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

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Your Name and Address on one side—Three Bees on the other side.



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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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